MUTTKOWSKI, RICHARD A. 1910. Catalogue of the Odonata of North America. Bull. Public Mus. Milwaukee, vol. 1, art. 1, pp. 1-207.

SELYS-LONGCHAMPS, Baron EDMOND DE (with H. A. Hagen). 1857. Monographie des Gomphines. Separate, pp. viii + 1-460, pls. 1-23. 1858, Mem. Soc. Sci. Liege, vol. 11, pp. 257-720.

WALKER, E. M. 1912. The North American dragonflies of the genus Aeshna. Univ. Toronto Studies, Biol. Ser. no. 11, pp. viii + 1-213, pls. 1-28.

ID. 1925. The North American dragonflies of the genus Somatochlora. Univ. Toronto Studies, Biol. Ser. no. 26, pp. 1-202, pls. 1-35.

A New Species of Coelus Eschscholtz. (Coleoptera: Tenebrionidae).

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Coelus gracilis new species.

Gracilis belongs to the Globosus Group 1 which also includes globosus Lec., grossus Csy. (solidus Csy., immature form) and saginatus Csy.; also the insular species pacificus and remotus of Fall. It is the smallest species of the group thus far discovered, some specimens scarcely exceeding in size the larger ones of Coelomorpha Csy. that occur in a similar habitat in the vicinity of Ensenada, Lower California, Mexico. All of the species belonging to the tribe Coelini burrow in sand dunes or sandy areas, under vegetation in littoral regions along the Pacific coast. Mainland species of the Globosus Group are known, from the data at hand, to occur only in the vicinity of Ensenada northward to Santa Cruz, California. It is interesting to discover a species as far north as Antioch, Contra Costa . County, California; the author knows of no record of species belonging to the group under discussion occuring north of Santa Cruz.

¹ Blaisdell, Synopsis and review of the species of Coelus. Trans. Amer. Ent. Soc., XIV, p. 318, 1919. Form oval to slightly oblong-ovate, small in size and about one-fifth longer than wide. Color nigro-piceous to ferruginous or paler due to immaturity; antennae and palpi flavo-testaceous, legs more or less piceous. Cilia along sides of body, long, dense, erect and fulvous, with bristling hairs of the same kind on the legs; hairs not occurring on the anterior pronotal margin and head behind the frontal suture, as in the species of the Ciliatus Group.

Head relatively moderate in size, twice as wide as length of an antenna; epistoma relatively large and more prominent laterally than the eyes, sides arcuately convergent anteriorly, angles broadly rounded, apical margin moderately deeply sinuate in middle two-fourths, sinus rather evenly arcuate, surface gradually arising from the frontal suture, somewhat convex and more or less impressed within the apical margin lateral to the sinus, rather closely punctate especially toward the sides, punctures moderate in size; frontal suture well marked, straight in middle three-fifths with lateral fifths arcuately attaining the eyes. Frons somewhat convex, broadly flattened in the central area, rather densely punctate, most so laterally and against the suture, punctures slightly larger and stronger than on the epistoma. Eyes coarsely facetted. Antennae in length equal to one-half the width of the epistoma, last four segments moderately compressed and somewhat gradually widened except the last; first segment not visible from above, second and third obconical, the former slightly larger than the latter, both a little longer than wide, fourth to the seventh inclusive slightly wider at apex and briefly constricted at base, as long as wide; last four segments forming a feebly defined club, the eighth triangular and as long as wide, ninth and tenth transverse the latter slightly wider, eleventh smaller, narrower and subquadrate.

Pronotum transverse, slightly more than twice as wide as long and twice as wide as the head; base less than one-half wider than apex, sinuation of the latter broad, moderately deep and rather straight in middle two-fourths, apical angles prominent and well rounded, margin beaded; sides broadly arcuate and moderately convergent anteriorly, margin beaded and continuously so with that of the apex; base transverse, margin thin and coriaceous, angles rather narrowly rounded; disk moderately convex from side to side, almost evenly punctate, punctures small, well defined and separated by a distance equal to about three to six times their diameter, larger and denser in the submarginal area, the latter not widely impressed, each puncture with a moderately long and more or less semi-erect hair. Sides less than moderately explanate. Surface finely alutaceous.

Elytra more or less moderately inflated posteriorly, about one-fifth longer than wide and three times as long as the pronotum; sides subparallel and moderately arcuate, apex subogival; disk strongly convex from side to side, less so in basal one-third, strongly so and arcuately declivous apically, surface moderately closely punctate, punctures separated by a distance equal to two to four times their diameter, smaller and quite simple in the central area, becoming a little larger and feebly muricate laterally and apically; each puncture with a fine subrecumbent, short hair which becomes coarser at the periphery.

Measurements.—(Types) Male: length 5 mm.; width 3 mm. Female: length 7 mm.; width 4 mm.

Holotype, female, no. 4698, and allotype, male, no. 4699, in the collection of Dr. E. C. Van Dyke, Museum of the California Academy of Sciences; collected at Antioch, Contra Costa County, CALIFORNIA, April 24, 1938, by Dr. Van Dyke. Thirty-four *paratypes* with same data; two are to be placed in the collection of the American Entomological Society, Philadelphia. Largest specimen measures: Length 7 mm., width 4 mm.; smallest: length 4.5 mm., width 2.5 mm.

The author has figured the genitalia of *Coelus ciliatus* Esch.,² genotype of the genus.³ Those of *gracilis* are of the same phylogenetic type, but show some specific differences. The aedeaga 4 of the female is testaceous in color and feebly chitinized, the lateral plates have a few very fine punctures, each with a long fine erect seta, none have been observed on the dorsal and ventral plates in the specimens examined.

Gracilis is to be recognized by its small size, smooth integument, fine and nearly simple punctation and with a facies somewhat like that of a small *Eusattus dubius* Lec.: the sides of the pronotum are but feebly explanate.

² Synopsis and review of the species of Coelus. Trans. Amer. Ent. Soc., xiv, p. 318, 1919, pl. xxxii. ³ Eschscholtz, Zool. Atlas, Heft iii, p. 5, pl. 14, fig. i, 1829.

⁴ In Transactions of the American Entomological Society 59, p. 223, I have proposed "that the term aedeaga be applied to the combination of sclerites in the female sexual segment."